

Notice of Allowability

Application No.

09/872,034

Examiner

Bernard Lipman

Applicant(s)

KRIVOHLAVEK, DENNIS

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed 14 December 2005.
2. ☒ The allowed claim(s) is/are 4-6, 9, 10, 16, 27-35, 39-46, 49 and 50 (rejoined).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mark G Kachigian, Esq. on 03 March 2006. Applicants authorized this amendment while reserving all rights to file the subject matter removed in a continuing application.

The application has been amended as follows:

Claims have been amended to read as follows

Claims 1 through 3 (Canceled)

4. (Currently Amended) A cross-linking compound as set forth in Claim 49 wherein said polymer is saturated.

5. (Currently Amended) A cross-linking compound as set forth in Claim 49 wherein said polymer contains functional groups.

6. (Withdrawn) A cross-linking compound as set forth in Claim 49 wherein said polymer is hydroxy terminated polybutadiene.

Claims 7 through 8 (Canceled)

9. (Withdrawn) A cross-linking compound as set forth in Claim 49 including aldehyde, phenol, phenol-aldehyde, melamine or epoxy resins.

10. (Withdrawn) A cross-linking compound as set forth in Claim 9 wherein said epoxy resins contains glycidyl moieties.

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Claims 11 through 15 (Canceled)

16. (Withdrawn) A cross-linking compound as set forth in Claim 9 wherein said polymer is hydroxy terminated polybutadiene.

Claims 17 through 26 (Canceled)

27. (Withdrawn) A cross-linking compound as set forth in Claim 9 including additional cross-linking agents of aldehydes, phenols, phenol-aldehydes, melamine resins or epoxy resins.

28. (Withdrawn) A cross-linking compound as set forth in Claim 27 wherein said epoxy resin contains glycidyl moieties.

29. (Withdrawn) A cross-linking compound as set forth in Claim 28 wherein the glycidyl moiety is neodecanoic acid, oxiranylmethyl ester.

30. (Withdrawn) A cross-linking compound as set forth in Claim 49 including vulcanization accelerators or co-reactant.

31. (Withdrawn) A cross-linking compound as set forth in Claim 30 wherein the accelerator or co-reactant is Tetramethyl Thiuram Disulfide.

32. (Withdrawn) A cross-linking compound as set forth in Claim 30 wherein the accelerator or co-reactant is Tetrabutylthiuram Disulfide.

33. (Withdrawn) A cross-linking compound as set forth in Claim 30 wherein the accelerator or co-reactant is a room temperature accelerator or co-reactant.

34. (Withdrawn) A cross-linking compound as set forth in Claim 30 wherein the accelerator or co-reactant is Dimethyl Cyclohexyl Ammonium Dibutyl Dithiocarbamate.

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35. (Withdrawn) A cross-linking compound as set forth in Claim 30 including organic oils or solvents.

Claims 36 through 38 (Canceled)

39. (Withdrawn) A cross-linking compound as set forth in Claim 35 wherein the organic oils or solvents are derived from natural oils.

40. (Withdrawn) A cross-linking compound as set forth in Claim 39 wherein the natural oils are of either animal or vegetable origin.

41. (Withdrawn) A cross-linking compound as set forth in Claim 39 wherein the oil is of vegetable origin.

42. (Withdrawn) A cross-linking compound as set forth in Claim 35 wherein the organic oils or solvents contain elements of Group V-A of the periodic table of elements.

43. (Withdrawn) A cross-linking compound as set forth in Claim 42 wherein the Group V- A elements contained in said oils or solvents is either phosphorous or nitrogen or both.

44. (Withdrawn) A cross-linking compound as set forth in Claim 43 wherein said oils or solvents containing both phosphorous and nitrogen is lecithin.

45. (Withdrawn) A cross-linking compound as set forth in Claim 49 which includes chemical moieties capable of forming an oxidation-reduction reaction.

46. (Withdrawn) A cross-linking compound as set forth in Claim 45 wherein the chemical moieties capable of forming a oxidation-reduction reaction are iron sulfate and iron chloride.

Claims 47 and 48 (Canceled)

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49. (Previously Presented) A cross-linking compound which comprises:

(a) an anhydrous hydrocarbon compound liquid at ambient temperature having elemental sulfur, oxygen or selenium therein, wherein said hydrocarbon compound is Di-tert-butyl polysulfide, Di-tert-dodecyl polysulfide, Di-tert-nonyl polysulfide or combinations thereof; and (b) an ethylenic polymer liquid at ambient temperature having a molecular weight less than 25,000, wherein said polymer is a copolymer of butylene and butene, wherein said anhydrous compound having sulfur, oxygen, or selenium therein, and said polymer are dissolvable or digestible in asphalt to react under heat of from greater than 110°C to produce a cross-linked polymer modified asphalt.

50. (Currently Amended) A cross-linking compound as set forth in Claim 49 wherein said anhydrous hydrocarbon compound is an organic process oil from crude or coal processing.

51. (Canceled)

2. The following is an examiner's statement of reasons for allowance: the specific combination of hydrocarbon compound with sulfur, oxygen or selenium incorporated therein and the specific copolymer with the required characteristics are neither taught nor rendered prima facie obvious from the teachings of the closest prior art as cited.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Lipman whose telephone number is 571-272-1105. The examiner can normally be reached on 8-5 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bernard Lipman
Primary Examiner
Art Unit 1713

BL/hs

AMBIENT TEMPERATURE ANHYDROUS LIQUID CROSS-LINKING AGENT

CROSS REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part patent application of U.S. Patent Application No. 09/570,511 filed May 16, 2000, ^{now U.S. Patent 6,451,886,} entitled "Universal Cross-Linking Compound and Polymer" by Dennis Krivohlavek.

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09/570,511